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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,468	12/12/2003	Craig A. McKnight	JJK-0342 (P2003J007)	4315

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EXXONMOBIL RESEARCH AND ENGINEERING COMPANY
P.O. BOX 900
1545 ROUTE 22 EAST
ANNANDALE, NJ 08801-0900

EXAMINER

SINGH, PREM C

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/735,468

Applicant(s)

MCKNIGHT ET AL.

Examiner

Prem C. Singh

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Amendment to claim 1 is noted.

Rejection of claims under nonstatutory obviousness-type double patenting is withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-15 are rejected under 35 U.S.C. 102(b) as anticipated by Brignac et al (US Patent 6,197,718).

Claim 1.

Brignac invention discloses, "A process for the activation of a Co Mo supported catalyst for the selective hydrodesulfurization of cat naphtha without saturating a significant amount of the olefins, which process comprises:

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- a) heating the catalyst to a temperature of about 350°F to about 450°F in an effective amount of time, in presence of hydrogen and hydrogen sulfide, and in the presence of virgin naphtha at an effective pressure such that the environment is not a reducing environment;
- b) holding the catalyst at 350°F to about 450°F for an effective amount of time so that at least 20% of the metals that will sulfide will sulfide; and
- c) further heating said catalyst to a temperature from about 550°F to 700°F in the presence of hydrogen and hydrogen sulfide and in the presence of virgin naphtha and at an effective pressure such that the environment is non-reducing, so that substantially all of the metals are sulfided.” (Column 2, lines 52-67; column 3, lines 1-3).

Brignac invention further discloses, “In another preferred embodiment of the present invention the total pressure is from about 200 to 400 psig.” (Column 3, lines 7-8).

Claims 2, 9.

Brignac invention discloses, “The cracked naphtha feedstock generally comprises an overall olefins concentration ranging as high as about 60 wt%, more typically about 5 wt% to 50 wt%.” (Column 3, lines 52-54).

Claims 3, 10.

Brignac invention discloses, “The cracked naphtha feedstock can comprise a diene concentration of as much as 15 wt %, preferably from about 0.02 wt% to about 15 wt%.” (Column 3, lines 56-58).

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Claims 4, 11.

Brignac invention discloses, "The temperature of step (a) is obtained by ramping at a rate of 10°F to 80°F (-12 to 27°C) per hour." (Column 3, lines 4-6).

Claims 5, 12.

Brignac invention discloses, "The total pressure is from about 200 to 400 psig." (Column 3, line 8).

Claims 6, 13.

Brignac invention discloses, "The cracked naphtha feedstock sulfur content will generally range from about 0.05 wt % to about 0.7 wt %." (Column 3, lines 61-63).

Claims 7, 14, 15.

Brignac invention discloses, "The naphtha feedstock generally contains cracked naphtha which usually comprises fluid catalytic cracking unit naphtha (cat naphtha), coker naphtha, hydrocracker naphtha, resid hydrotreater naphtha." (Column 3, lines 37-41). "The activity test used an intermediate/heavy cat naphtha feed with a 162-475°F boiling range." (Column 5, lines 63-65).

Claim 8.

Brignac invention discloses, "The test was performed in an isothermal, downflow, all vapor phase pilot plant. The activity test used an intermediate/heavy cat naphtha

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feed with a 162-475°F boiling range, 1850 wppm total sulfur." (Column 5, lines 63-66).

"Space velocity was held constant at 6.5 LHSV, HDS levels range between 97.4 and 96.1% and olefin saturation between 46.7 and 40.2%." (Column 6, lines 3-6).

Brignac invention further discloses, " a) heating the catalyst to a temperature of about 350°F to about 450°F in an effective amount of time, in presence of hydrogen and hydrogen sulfide, and in the presence of virgin naphtha at an effective pressure such that the environment is not a reducing environment;

b) holding the catalyst at 350°F to about 450°F for an effective amount of time so that at least 20% of the metals that will sulfide will sulfide; and

c) further heating said catalyst to a temperature from about 550°F to 700°F in the presence of hydrogen and hydrogen sulfide and in the presence of virgin naphtha and at an effective pressure such that the environment is non-reducing, so that substantially all of the metals are sulfided." (Column 2, lines 56-67; column 3, lines 1-3).

Response to Arguments

Applicant's arguments filed 08/18/2006 have been fully considered but they are not persuasive.

I. Claims 1-15

The Applicant argues that the claimed invention activates the catalyst in presence of an olefinic naphtha while the Brignac reference uses virgin naphtha.

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The Applicant's argument is not persuasive because the catalyst is going to be used for desulfurizing all naphtha streams. Because most naphthas will have olefins, one skilled in the art will use any naphtha easily available, including naphtha with high olefins. Virgin naphtha is available only in very small quantities and one skilled in the art will not wait for its availability.

The Applicant argues that in Examples 1-4 in the specification a comparison between Brignac and the claimed invention shows similar hydrodesulfurization (HDS) activity as Brignac with a reduced level of olefin saturation as compared to Brignac. At the same time the Applicant agrees, "While it is desirable to retain as many olefins as possible, the primary goal of the process is to remove sulfur."

The Applicant's argument is not persuasive because the results show better HDS activity with Brignac process as compared to the Applicant's. Although the Applicant gets lower olefin saturation, it is to be noted, and the Applicant agrees, that the ultimate aim of the process is to reduce sulfur from naphtha streams.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prem C. Singh whose telephone number is 571-272-6381. The examiner can normally be reached on MF 6:30 AM-3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PS 1100606


Glenn Caldarola
Supervisory Patent Examiner
Art Unit 1764